

**From:** (b) (6)  
**To:** Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US); Goolsby, Rebecca CIV ONR, 341  
**Subject:** RE: Re-send! FW: [Non-DoD Source] Re: COSMOS Office of Naval Research funding  
**Date:** Thursday, May 10, 2018 11:21:50 AM

---

It's going to be after 1800 Sydney Time for me otherwise we might have to look when I am back in the US the week of the 21st.

Regards,

(b) (6)

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-----Original Message-----

From: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US) [<mailto:paec.wu.civ@mail.mil>]  
Sent: Thursday, May 10, 2018 10:44 AM  
To: Goolsby, Rebecca CIV ONR, 341  
Cc: (b) (6)  
Subject: Re: Re-send! FW: [Non-DoD Source] Re: COSMOS Office of Naval Research funding

Rebecca and chuck

I could do 18 May evening sg time. So first thing east coast time. How early are y'all comfortable with?

P

---

Sent by mobile apologies for typos

Pae Wu, PhD  
Science Director | ONR Global  
+1.206.953.4192  
<http://www.onr.navy.mil/global>

On May 10, 2018, at 22:16, Goolsby, Rebecca CIV ONR, 341 <[rebecca.goolsby@navy.mil](mailto:rebecca.goolsby@navy.mil)> wrote:

Dear Dr. Wu and (b) (6)

My availability on the 16th is highly constrained and non-existent on the 17. The 18th is possible.

Very respectfully,

Dr. Rebecca Goolsby, Program Officer  
Office of Naval Research

Human & Bioengineered Systems  
One Liberty Center  
875 N. Randolph Street  
Arlington, VA 22203  
Phone: 703-588-0558  
Cell: 571-329-4763  
Email: Rebecca.Goolsby@navy.mil

-----Original Message-----

From: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US)  
[mailto:pae.c.wu.civ@mail.mil]  
Sent: Wednesday, May 09, 2018 10:29 PM  
To: (b) (6) Goolsby,  
Rebecca CIV ONR, 341 <rebecca.goolsby@navy.mil>  
Subject: RE: Re-send! FW: [Non-DoD Source] Re: COSMOS Office of Naval  
Research funding

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SG Time/ 0800 ET on Friday. Let me know if y'all can find a good time for a  
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pae

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P et. al,

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Cc: (b) (6)

Subject: RE: Re-send! FW: [Non-DoD Source] Re: COSMOS Office of Naval Research funding

Hi Rebecca and (b) (6)

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I've sent your distro A presentation to the PI (Justin Dauwels) for his consideration. He has close ties with the ministry of homeland affairs here (did projects on the extremist online content for them) so there's also a tie-in with MHA in addition to MINDEF.

IN short, this could be the seed of something very interesting and unique that we can do here in Singapore.

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Sent: Tuesday, May 1, 2018 3:12 AM

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Cc: (b) (6)

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Let's circle up soon and have a chat.

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To: Goolsby, Rebecca CIV ONR, 341 <rebecca.goolsby@navy.mil>  
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Sent: Wednesday, April 11, 2018 4:58 PM  
To: Goolsby, Rebecca L CIV USN ONR (US) <rebecca.goolsby@navy.mil>  
Subject: RE: [Non-DoD Source] Re: COSMOS Office of Naval Research funding

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have been working with (b) (6) for over a year to scope out some activities here in Singapore to support a (still in development) STO program that would be performed here in Singapore. The big picture is related to gray zone, and in the near term the activity in Singapore would be looking at how real world urban sensors (multiple modalities) can be applied to person identification.

In parallel with this, I have been discussing possible R&D grants with academics here in Singapore that ONRG may fund to complement the larger gray zone question. I am extremely new to this space, but generally am interested in looking at how new analytical techniques (to include machine learning) can be applied to real world datasets for diagnosing activities that (taken in aggregate) may amount to gray zone aggressions. Singapore is a particularly interesting location to perform such studies in large part because of their national strategy to become a smart nation. Surveillance cameras are ubiquitous and real-time transport tracking is as well. Further, they are sensorizing housing developments (where 80% of singaporeans reside) for more conveniences for daily life, and ancillary security considerations. In short, there is an appetite and some comfort with using with real world data in controlled ways.

These elements I suspect are a bit afield from your program activities, but I was hoping to perhaps start a conversation about these larger questions surrounding gray zone and how we might be able to leverage our presence here in Singapore to support ONR's activities as well. I am attaching a couple very light white papers from a professor here in Singapore who wants to apply machine learning and deep learning approaches to national security problems. I'm awaiting a more technically deep draft from him, but in the meantime, I wanted to get a sense from you whether these are ideas that might resonate with your program as well? I've been in contact with Lisa Troyer and Fred Gregory from ARO as well regarding these white papers.

Thanks for your time and I look forward to learning more about your program.

Pae

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Pae Wu, Ph.D.  
ONR Global Science Director Singapore Office Embassy of the United States of America |Singapore  
(m) +1 (206) 953.4192 | (o) +65 6476.9300  
iMessage/FaceTime: pae.c.wu.civ@mail.mil  
<http://www.onr.navy.mil/global>

-----Original Message-----

From: Nitin Agarwal [<mailto:nxagarwal@ualr.edu>]  
Sent: Tuesday, April 10, 2018 11:14 PM  
To: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US) <pae.c.wu.civ@mail.mil>  
Cc: Goolsby, Rebecca L CIV USN ONR (US) <rebecca.goolsby@navy.mil>  
Subject: [Non-DoD Source] Re: COSMOS Office of Naval Research funding

Hi Pae,

I appreciate you reaching out. My program officer at ONR is Dr. Rebecca Goolsby. I am copying her on this note. My DARPA program manager is Dr. Jonathan Pfautz <Jonathan.Pfautz@darpa.mil>.

Attached are two of my latest publications with full citation details as follows:

- Nitin Agarwal and Kiran Kumar Bandeli. Blogs, Fake News, and Information Activities. Digital Hydra: Security Implications of False Information Online. NATO Strategic Communications Center of Excellence (StratCom COE). pp. 31- 46. November 8, 2017. ISBN 978-9934-564-18-5.

- Nitin Agarwal, Samer Al-khateeb, Rick Galeano, and Rebecca Goolsby. Examining the Use of Botnets and their Evolution in Propaganda Dissemination. Journal of NATO Defence Strategic Communications, Vol. 2, pp. 87-112. 2017.

Also, Dr. Golsby and I work closely with Dr. Lucia Falzon <lucia.falzon@dst.defence.gov.au> over at the Australian Department of Defense Science and Technology on the topics of social network analysis. I appreciate any details you could share about the workshop you are envisioning and if we could be of help.

Please let me know if there is anything I can provide to help further.

Best wishes,  
Nitin

**From:** [Wu, Pae C CIV USN ONR GLOBAL SINGAPORE \(US\)](#)  
**To:** (b) (6) [Goolsby, Rebecca CIV ONR, 341](#)  
**Subject:** RE: Re-send! FW: [Non-DoD Source] Re: COSMOS Office of Naval Research funding  
**Date:** Friday, May 11, 2018 3:25:06 AM

---

Are you OK with that or are you suggesting we aim for week of 21st?

My mornings and evenings 21-23 May are quite flexible.

Rebecca -- what say ye?

P

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Sent: Thursday, May 10, 2018 11:22 PM  
To: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US) <[pae.c.wu.civ@mail.mil](mailto:pae.c.wu.civ@mail.mil)>; Goolsby, Rebecca L CIV USN ONR (US) <[rebecca.goolsby@navy.mil](mailto:rebecca.goolsby@navy.mil)>  
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Pae Wu, Ph.D.

ONR Global Science Director Singapore Office Embassy of the United States of America |Singapore

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In parallel with this, I have been discussing possible R&D grants with academics here in Singapore that ONRG may fund to complement the larger gray zone question. I am extremely new to this space, but generally am interested in looking at how new analytical techniques (to include machine learning) can be applied to real world datasets for diagnosing activities that (taken in aggregate) may amount to gray zone aggressions. Singapore is a particularly interesting location to perform such studies in large part because of their national strategy to become a smart nation. Surveillance cameras are ubiquitous and real-time transport tracking is as well. Further, they are sensorizing housing developments (where 80% of singaporeans reside) for more conveniences for daily life, and ancillary security considerations. In short, there is an appetite and some comfort with using with real world data in controlled ways.

These elements I suspect are a bit afield from your program activities, but I was hoping to perhaps start a conversation about these larger questions surrounding gray zone and how we might be able to leverage our presence here in Singapore to support ONR's activities as well. I am attaching a couple very light white papers from a professor here in Singapore who wants to apply machine learning and deep learning approaches to national security problems. I'm awaiting a more technically deep draft from him, but in the meantime, I wanted to get a sense from you whether these are ideas that might resonate with your program as well? I've been in contact with Lisa Troyer and Fred Gregory from ARO as well regarding these white papers.

Thanks for your time and I look forward to learning more about your program.

Pae

Very respectfully,

---

Pae Wu, Ph.D.  
ONR Global Science Director Singapore Office Embassy of the United States of America |Singapore  
(m) +1 (206) 953.4192 | (o) +65 6476.9300  
iMessage/FaceTime: pae.c.wu.civ@mail.mil  
<http://www.onr.navy.mil/global>

-----Original Message-----

From: Nitin Agarwal [<mailto:nxagarwal@ualr.edu>]  
Sent: Tuesday, April 10, 2018 11:14 PM  
To: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US) <pae.c.wu.civ@mail.mil>  
Cc: Goolsby, Rebecca L CIV USN ONR (US) <rebecca.goolsby@navy.mil>  
Subject: [Non-DoD Source] Re: COSMOS Office of Naval Research funding

Hi Pae,

I appreciate you reaching out. My program officer at ONR is Dr. Rebecca Goolsby. I am copying her on this note. My DARPA program manager is

(b) (6)

(b) (6)

Attached are two of my latest publications with full citation details as follows:

- Nitin Agarwal and Kiran Kumar Bandeli. Blogs, Fake News, and Information Activities. Digital Hydra: Security Implications of False Information Online. NATO Strategic Communications Center of Excellence (StratCom COE). pp. 31- 46. November 8, 2017. ISBN 978-9934-564-18-5.

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Also, Dr. Golsby and I work closely with Dr. Lucia Falzon <luca.falzon@dst.defence.gov.au> over at the Australian Department of Defense Science and Technology on the topics of social network analysis. I appreciate any details you could share about the workshop you are envisioning and if we could be of help.

Please let me know if there is anything I can provide to help further.

Best wishes,  
Nitin



**From:** [Wu, Pae C CIV USN ONR GLOBAL SINGAPORE \(US\)](#)  
**To:** (b) (6); [Goolsby, Rebecca CIV ONR, 341](#)  
**Subject:** RE: Re-send! FW: [Non-DoD Source] Re: COSMOS Office of Naval Research funding  
**Date:** Wednesday, May 9, 2018 10:28:45 PM

---

Chuck and Rebecca --

I could do a telecom sometime Wednesday-Friday (16-18 May) until about 2000 SG Time/ 0800 ET on Friday. Let me know if y'all can find a good time for a call!

I'll see if I can't get a more thorough draft from Prof. Dauwels before then.

pae

-----Original Message-----

From: (b) (6)  
Sent: Wednesday, May 9, 2018 8:56 PM  
To: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US) <pae.c.wu.civ@mail.mil>; Goolsby, Rebecca L CIV USN ONR (US) <rebecca.goolsby@navy.mil>  
Subject: RE: Re-send! FW: [Non-DoD Source] Re: COSMOS Office of Naval Research funding

P et. al,

I would love to definitely get together and talk on this. I am heading out to Austrailia next week and am very busy at the moment. I wouldn't be opposed to having a TELCON next week if Rebecca is available.

Regards,

(b) (6)

(b) (6)

(W) 703-695-6254

(b) (6)

"This Email and attachments are For Official Use Only - Privacy Sensitive - Any misuse or unauthorized disclosure may result in either civil or criminal penalties."

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[\[mailto:pae.c.wu.civ@mail.mil\]](mailto:pae.c.wu.civ@mail.mil)  
Sent: Tuesday, May 08, 2018 2:50 AM  
To: Goolsby, Rebecca CIV ONR, 341  
Cc: (b) (6)  
Subject: RE: Re-send! FW: [Non-DoD Source] Re: COSMOS Office of Naval Research funding

Hi Rebecca and (b) (6)

So glad to have met you over email, Rebecca. (b) (6) -- nice to see your name! This sounds really exciting that there's some interest in building up something through the Bi-lat.

I've sent your distro A presentation to the PI (Justin Dauwels) for his consideration. He has close ties with the ministry of homeland affairs here (did projects on the extremist online content for them) so there's also a tie-in with MHA in addition to MINDEF.

IN short, this could be the seed of something very interesting and unique that we can do here in Singapore.

Definitely would be good to try and get together on a call sometime. We're 12 hours ahead of Arlington right now. Could you do like 8 or 9AM Thursday or Friday morning ET time?

p

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From: Goolsby, Rebecca CIV ONR, 341 [<mailto:rebecca.goolsby@navy.mil>]

Sent: Tuesday, May 1, 2018 3:12 AM

To: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US) <[pae.c.wu.civ@mail.mil](mailto:pae.c.wu.civ@mail.mil)>

Cc: (b) (6)

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Dear Dr. Wu,

Thank you for your patience. These are two quite interesting pieces, not at all outside of my program's interest. We've been working on crisis and disaster informatics, rumor propagation and social hysteria issues for over ten years now. For the last four years, it's pretty much all we've done.

I am working with (b) (6) on a separate, developing project with Singapore and NPS. We're looking to study information environment assessment but this a project still in early stages of development.

The "fake news" effort (attached for (b) (6) situation awareness) is in line with literally hundreds of efforts spinning up around the world. The work described here is fairly generic. What would make this USEFUL, unique and IMPORTANT is if the performer focused on disinformation efforts in Asia Pacific, PARTICULARLY. This is why I'm linking in Dr. Stotz as we discussed this the other day with NPS and representatives from the Singapore embassy.

Characterizing and assessing disinformation in Asia-Pacific is woefully in need of study. I'm very interested in finding the right people to cooperate with to study this problem. (b) (6) tells me that there is a good deal of information conflict surround US/Singapore bi-lateral military exercises, held twice a year.

I am quite interested in developing a program thread on information conflicts in the Asia/Pacific region. We have 3MEF customers-- and the developing 3 MIG associated with them (Marine Corps Information Groups) -- that would be most interested in such a thread --as well as PACOM. I'm including a publicly releasable draft of talk I gave that gives a broad explanation of the concerns in social hysteria and crowd manipulation my program has been researching.

Let's circle up soon and have a chat.

Very respectfully,

Dr. Rebecca Goolsby, Program Officer  
Office of Naval Research  
Human & Bioengineered Systems  
One Liberty Center  
875 N. Randolph Street  
Arlington, VA 22203  
Phone: 703-588-0558  
Cell: 571-329-4763  
Email: Rebecca.Goolsby@navy.mil

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[mailto:pae.c.wu.civ@mail.mil]  
Sent: Sunday, April 29, 2018 10:31 PM  
To: Goolsby, Rebecca CIV ONR, 341 <rebecca.goolsby@navy.mil>  
Subject: Re-send! FW: [Non-DoD Source] Re: COSMOS Office of Naval Research funding

Hi Dr. Goolsby -- here you go. Hope your computer woes are slowly resolving!

Look forward to learning more about your programs and your potential interest areas.

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Pae

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Please let me know if there is anything I can provide to help further.

Best wishes,  
Nitin

**From:** [Wu, Pae C CIV USN ONR GLOBAL SINGAPORE \(US\)](#)  
**To:** [Goolsby, Rebecca CIV ONR, 341](#); (b) (6)  
**Cc:** (b) (6)  
**Subject:** Rebecca confirm skype info? Re: COSMOS Office of Naval Research funding

---

Hi Rebecca – awaiting your skype info or mine and (b) (6) information is below. Look forward to chatting in about 14 hours.

(b) (6)

REBECCA:

From: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US)  
Sent: Wednesday, May 16, 2018 12:53 PM  
To: 'Goolsby, Rebecca CIV ONR, 341' <rebecca.goolsby@navy.mil <mailto:rebecca.goolsby@navy.mil> >; (b) (6)  
(b) (6)  
Subject: RE: Re-send! FW: [Non-DoD Source] Re: COSMOS Office of Naval Research funding

I could probably do a call on 31 May morning (australia time potentially) or evening. That would be 30 May evening/31 May morning East coast time.

P

-----Original Message-----

From: Goolsby, Rebecca CIV ONR, 341 [mailto:rebecca.goolsby@navy.mil]  
Sent: Friday, May 11, 2018 10:40 PM  
To: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US) <pae.c.wu.civ@mail.mil <mailto:pae.c.wu.civ@mail.mil> >; (b) (6)  
Subject: RE: Re-send! FW: [Non-DoD Source] Re: COSMOS Office of Naval Research funding

Dear all,

Unfortunately, the week of the 21st is out for me as I am TDY from the 21st to the 26th. How about May 30? VR, RG

-----Original Message-----

From: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US) [mailto:pae.c.wu.civ@mail.mil]  
Sent: Friday, May 11, 2018 3:25 AM  
To: (b) (6) Goolsby, Rebecca CIV ONR, 341 <rebecca.goolsby@navy.mil <mailto:rebecca.goolsby@navy.mil> >  
Subject: RE: Re-send! FW: [Non-DoD Source] Re: COSMOS Office of Naval Research funding

Are you OK with that or are you suggesting we aim for week of 21st?

My mornings and evenings 21-23 May are quite flexible.

Rebecca—what say ye?

P

-----Original Message-----

From: (b) (6)  
Sent: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US) <pae.c.wu.civ@mail.mil <mailto:pae.c.wu.civ@mail.mil> >; Goolsby, Rebecca L CIV USN ONR (US) <rebecca.goolsby@navy.mil <mailto:rebecca.goolsby@navy.mil> >  
Subject: RE: Re-send! FW: [Non-DoD Source] Re: COSMOS Office of Naval Research funding

It's going to be after 1800 Sydney Time for me otherwise we might have to look when I am back in the US the week of the 21st.  
Regards,

(b) (6)

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-----Original Message-----

From: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US) [mailto:pae.c.wu.civ@mail.mil]  
Sent: Thursday, May 10, 2018 10:44 AM  
To: Goolsby, Rebecca CIV ONR, 341  
Cc: (b) (6)  
Subject: Re: Re-send! FW: [Non-DoD Source] Re: COSMOS Office of Naval Research funding

Rebecca an (b) (6)

I could do 18 May evening sg time. So first thing east coast time. How early are y'all comfortable with?

P

Sent by mobile apologies for typos  
Pae Wu, PhD  
Science Director | ONR Global  
+1.206.953.4192  
<http://www.onr.navy.mil/global>

On May 10, 2018, at 22:16, Goolsby, Rebecca CIV ONR, 341  
<rebecca.goolsby@navy.mil> wrote:

Dear Dr. Wu and (b) (6)  
My availability on the 16th is highly constrained and non-existent  
on the  
17. The 18th is possible.  
Very respectfully,  
Dr. Rebecca Goolsby, Program Officer  
Office of Naval Research  
Human & Bioengineered Systems  
One Liberty Center  
875 N. Randolph Street  
Arlington, VA 22203  
Phone: 703-588-0558  
Cell: 571-329-4763  
Email: Rebecca.Goolsby@navy.mil <mailto:Rebecca.Goolsby@navy.mil>

-----Original Message-----

From: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US)  
[mailto:pae.c.wu.civ@mail.mil]  
Sent: Wednesday, May 09, 2018 10:29 PM  
To: (b) (6)  
Gools  
Rebecca CIV ONR, 341 <rebecca.goolsby@navy.mil <mailto:rebecca.goolsby@navy.mil> >  
Subject: RE: Re-send! FW: [Non-DoD Source] Re: COSMOS Office of  
Naval  
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that would be most interested in such a thread—as well as PACOM.  
I'm  
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In parallel with this, I have been discussing possible R&D grants  
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Singapore is  
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Further, they are sensorizing housing developments (where 80% of  
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- \* Nitin Agarwal and Kiran Kumar Bandeli. Blogs, Fake News, and Information Activities. Digital Hydra: Security Implications of False Information Online. NATO Strategic Communications Center of Excellence (StratCom COE). pp. 31- 46. November 8, 2017. ISBN 978-9934-564-18-5.
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Also, Dr. Golsby and I work closely with Dr. Lucia Falzon <lucia.falzon@dst.defence.gov.au <mailto:lucia.falzon@dst.defence.gov.au> > over at the Australian Department of Defense Science and Technology on the topics of social network analysis. I appreciate any details you could share about the workshop you are envisioning and if we could be of help. Please let me know if there is anything I can provide to help further. Best wishes,  
Nitin

**From:** [Wu, Pae C CIV USN ONR GLOBAL SINGAPORE \(US\)](#)  
**To:** [Goolsby, Rebecca CIV ONR, 341](#)  
**Subject:** Re-send! FW: [Non-DoD Source] Re: COSMOS Office of Naval Research funding  
**Date:** Sunday, April 29, 2018 10:30:54 PM  
**Attachments:** [White paper of Situational Awareness and Human Behaviour Understanding 4....docx](#)  
[White Paper---Neutralise Inappropriate Online Content.docx](#)

---

Hi Dr. Goolsby -- here you go. Hope your computer woes are slowly resolving!

Look forward to learning more about your programs and your potential interest areas.

P

-----Original Message-----

From: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US)  
Sent: Wednesday, April 11, 2018 4:58 PM  
To: Goolsby, Rebecca L CIV USN ONR (US) <[rebecca.goolsby@navy.mil](mailto:rebecca.goolsby@navy.mil)>  
Subject: RE: [Non-DoD Source] Re: COSMOS Office of Naval Research funding

Hi Dr. Goolsby -- I am a science director based in Singapore for ONRG. I have been working with DARPA STO for over a year to scope out some activities here in Singapore to support a (still in development) STO program that would be performed here in Singapore. The big picture is related to gray zone, and in the near term the activity in Singapore would be looking at how real world urban sensors (multiple modalities) can be applied to person identification.

In parallel with this, I have been discussing possible R&D grants with academics here in Singapore that ONRG may fund to complement the larger gray zone question. I am extremely new to this space, but generally am interested in looking at how new analytical techniques (to include machine learning) can be applied to real world datasets for diagnosing activities that (taken in aggregate) may amount to gray zone aggressions. Singapore is a particularly interesting location to perform such studies in large part because of their national strategy to become a smart nation. Surveillance cameras are ubiquitous and real-time transport tracking is as well. Further, they are sensorizing housing developments (where 80% of singaporeans reside) for more conveniences for daily life, and ancillary security considerations. In short, there is an appetite and some comfort with using with real world data in controlled ways.

These elements I suspect are a bit afield from your program activities, but I was hoping to perhaps start a conversation about these larger questions surrounding gray zone and how we might be able to leverage our presence here in Singapore to support ONR's activities as well. I am attaching a couple very light white papers from a professor here in Singapore who wants to apply machine learning and deep learning approaches to national security problems. I'm awaiting a more technically deep draft from him, but in the meantime, I wanted to get a sense from you whether these are ideas that might resonate with your program as well? I've been in contact with Lisa Troyer and Fred Gregory from ARO as well regarding these white papers.

Thanks for your time and I look forward to learning more about your program.

Pae

Very respectfully,

---

Pae Wu, Ph.D.  
ONR Global Science Director Singapore Office Embassy of the United States of America |Singapore  
(m) +1 (206) 953.4192 | (o) +65 6476.9300  
iMessage/FaceTime: [pae.c.wu.civ@mail.mil](mailto:pae.c.wu.civ@mail.mil)  
<http://www.onr.navy.mil/global>

-----Original Message-----

From: Nitin Agarwal [<mailto:nxagarwal@ualr.edu>]

Sent: Tuesday, April 10, 2018 11:14 PM

To: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US) <[pae.c.wu.civ@mail.mil](mailto:pae.c.wu.civ@mail.mil)>

Cc: Goolsby, Rebecca L CIV USN ONR (US) <[rebecca.goolsby@navy.mil](mailto:rebecca.goolsby@navy.mil)>

Subject: [Non-DoD Source] Re: COSMOS Office of Naval Research funding

Hi Pae,

I appreciate you reaching out. My program officer at ONR is Dr. Rebecca Goolsby. I am copying her on this note. My DARPA program manager is (b) (6)

Attached are two of my latest publications with full citation details as follows:

- Nitin Agarwal and Kiran Kumar Bandeli. Blogs, Fake News, and Information Activities. Digital Hydra: Security Implications of False Information Online. NATO Strategic Communications Center of Excellence (StratCom COE). pp. 31- 46. November 8, 2017. ISBN 978-9934-564-18-5.

- Nitin Agarwal, Samer Al-khateeb, Rick Galeano, and Rebecca Goolsby. Examining the Use of Botnets and their Evolution in Propaganda Dissemination. Journal of NATO Defence Strategic Communications, Vol. 2, pp. 87-112. 2017.

Also, Dr. Golsby and I work closely with Dr. Lucia Falzon <[lucia.falzon@dst.defence.gov.au](mailto:lucia.falzon@dst.defence.gov.au)> over at the Australian Department of Defense Science and Technology on the topics of social network analysis. I appreciate any details you could share about the workshop you are envisioning and if we could be of help.

Please let me know if there is anything I can provide to help further.

Best wishes,  
Nitin

**From:** [Wu, Pae C CIV USN ONR GLOBAL SINGAPORE \(US\)](#)  
**To:** [Goolsby, Rebecca CIV ONR, 341](#); (b) (6)  
**Subject:** Re-send! FW: [Non-DoD Source] Re: COSMOS Office of Naval Research funding

---

Hi Rebecca and (b) (6)  
I'm putting this in the calendar in the hopes this time works. If not, please definitely let me know. Would love to get on the phone to talk things through sooner rather than later, so didn't want scheduling to get in our way.

Do either of y'all have a telecon line we can use?  
p

---

From: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US)  
Sent: Wednesday, May 16, 2018 12:53 PM  
To: 'Goolsby, Rebecca CIV ONR, 341' <rebecca.goolsby@navy.mil>; (b) (6)  
Subject: RE: Re-send! FW: [Non-DoD Source] Re: COSMOS Office of

I could probably do a call on 31 May morning (australia time potentially) or evening. That would be 30 May evening/31 May morning East coast time.

p

-----Original Message-----  
From: Goolsby, Rebecca CIV ONR, 341 [mailto:rebecca.goolsby@navy.mil]  
Sent: Friday, May 11, 2018 10:40 PM  
To: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US) <pae.c.wu.civ@mail.mil>; (b) (6)  
Subject: RE: Re-send! FW: [Non-DoD Source] Re: COSMOS Office of Naval Research funding

Dear all,

Unfortunately, the week of the 21st is out for me as I am TDY from the 21st to the 26th. How about May 30? VR, RG

-----Original Message-----  
From: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US) [mailto:pae.c.wu.civ@mail.mil]  
Sent: Friday, May 11, 2018 3:25 AM  
To: (b) (6) Goolsby, Rebecca CIV ONR, 341 <rebecca.goolsby@navy.mil>  
Subject: RE: Re-send! FW: [Non-DoD Source] Re: COSMOS Office of Naval Research funding

Are you OK with that or are you suggesting we aim for week of 21st?

My mornings and evenings 21-23 May are quite flexible.

Rebecca -- what say ye?

p

-----Original Message-----  
From: (b) (6)  
Sent: T  
To: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US) <pae.c.wu.civ@mail.mil>; Goolsby, Rebecca L CIV USN ONR (US) <rebecca.goolsby@navy.mil>  
Subject: RE: Re-send! FW: [Non-DoD Source] Re: COSMOS Office of Naval Research funding

It's going to be after 1800 Sydney Time for me otherwise we might have to look when I am back in the US the week of the 21st.

Regards,

(b) (6)

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-----Original Message-----  
From: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US)

[mailto:pae.c.wu.civ@mail.mil]  
Sent: Thursday, May 10, 2018 10:44 AM  
To: Goolsby, Rebecca CIV ONR, 341  
Cc: (b) (6)  
Subject: Re: Re-send! FW: [Non-DoD Source] Re: COSMOS Office of Naval Research funding

Rebecca and (b) (6)

I could do 18 May evening sg time. So first thing east coast time. How early are y'all comfortable with?

P

---

Sent by mobile apologies for typos

Pae Wu, PhD  
Science Director | ONR Global  
+1.206.953.4192  
<http://www.onr.navy.mil/global>

On May 10, 2018, at 22:16, Goolsby, Rebecca CIV ONR, 341  
<rebecca.goolsby@navy.mil> wrote:

Dear Dr. Wu and (b) (6)

My availability on the 16th is highly constrained and non-existent on the 17. The 18th is possible.

Very respectfully,

Dr. Rebecca Goolsby, Program Officer  
Office of Naval Research  
Human & Bioengineered Systems  
One Liberty Center  
875 N. Randolph Street  
Arlington, VA 22203  
Phone: 703-588-0558  
Cell: 571-329-4763  
Email: Rebecca.Goolsby@navy.mil

-----Original Message-----

From: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US)  
[mailto:pae.c.wu.civ@mail.mil]  
Sent: Wednesday, May 09, 2018 10:29 PM  
To: (b) (6)  
Goolsby,  
Rebecca CIV ONR, 341 <rebecca.goolsby@navy.mil>  
Subject: RE: Re-send! FW: [Non-DoD Source] Re: COSMOS Office of Naval Research funding

(b) (6) and Rebecca --

I could do a telecom sometime Wednesday-Friday (16-18 May) until about 2000  
SG Time/ 0800 ET on Friday. Let me know if y'all can find a good time for a call!

I'll see if I can't get a more thorough draft from Prof. Dauwels before then.

pac

-----Original Message-----

From: (b) (6)  
[mailto:pae.c.wu.civ@mail.mil]  
Sent: W  
To: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US)  
<pae.c.wu.civ@mail.mil>;  
Goolsby, Rebecca L CIV USN ONR (US) <rebecca.goolsby@navy.mil>

Subject: RE: Re-send! FW: [Non-DoD Source] Re: COSMOS Office of Naval Research funding

P et. al,

I would love to definitely get together and talk on this. I am heading out to Australia next week and am very busy at the moment. I wouldn't be opposed to having a TELCON next week if Rebecca is available.

Regards,

(b) (6)

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-----Original Message-----

From: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US)  
[mailto:pae.c.wu.civ@mail.mil]  
Sent: Tuesday, May 08, 2018 2:50 AM  
To: Goolsby, Rebecca CIV ONR, 341  
Cc: (b) (6)  
Subject: RE: Re-send! FW: [Non-DoD Source] Re: COSMOS Office of Naval Research funding

Hi Rebecca and (b) (6)  
So glad to have (b) (6) email, Rebecca. (b) (6) -- nice to see your name! This sounds really exciting that there's some interest in building up something through the Bi-lat.

I've sent your distro A presentation to the PI (Justin Dauwels) for his consideration. He has close ties with the ministry of homeland affairs here (did projects on the extremist online content for them) so there's also a tie-in with MHA in addition to MINDEF.

IN short, this could be the seed of something very interesting and unique that we can do here in Singapore.

Definitely would be good to try and get together on a call sometime. We're 12 hours ahead of Arlington right now. Could you do like 8 or 9AM Thursday or Friday morning ET time?

p

-----Original Message-----

From: Goolsby, Rebecca CIV ONR, 341  
[mailto:rebecca.goolsby@navy.mil]  
Sent: Tuesday, May 1, 2018 3:12 AM  
To: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US)  
<pae.c.wu.civ@mail.mil>  
Cc: (b) (6)  
Subject: RE: Re-send! FW: [Non-DoD Source] Re: COSMOS Office of Naval Research funding

Dear Dr. Wu,

Thank you for your patience. These are two quite interesting pieces, not at all outside of my program's interest. We've been working on crisis and disaster informatics, rumor propagation and social hysteria issues

for over  
ten years now. For the last four years, it's pretty much all we've  
done.

I am working with (b) (6) on a separate, developing project  
with  
Singapore and NPS. We're looking to study information environment  
assessment but this a project still in early stages of development.

The "fake news" effort (attached for (b) (6) situation  
awareness) is  
in line with literally hundreds of efforts spinning up around the  
world.  
The work described here is fairly generic. What would make this  
USEFUL,  
unique and IMPORTANT is if the performer focused on disinformation  
efforts  
in Asia Pacific, PARTICULARLY. This is why I'm linking in (b) (6)  
as we  
discussed this the other day with NPS and representatives from the  
Singapore  
embassy.

Characterizing and assessing disinformation in Asia-Pacific is  
woefully in  
need of study. I'm very interested in finding the right people to  
cooperate  
with to study this problem. (b) (6) tells me that there is a good  
deal of  
information conflict surround US/Singapore bi-lateral military  
exercises,  
held twice a year.

I am quite interested in developing a program thread on information  
conflicts in the Asia/Pacific region. We have 3MEF customers-- and  
the  
developing 3 MIG associated with them (Marine Corps Information  
Groups) --  
that would be most interested in such a thread --as well as PACOM.  
I'm  
including a publicly releasable draft of talk I gave that gives a  
broad  
explanation of the concerns in social hysteria and crowd  
manipulation my  
program has been researching.

Let's circle up soon and have a chat.

Very respectfully,

Dr. Rebecca Goolsby, Program Officer  
Office of Naval Research  
Human & Bioengineered Systems  
One Liberty Center  
875 N. Randolph Street  
Arlington, VA 22203  
Phone: 703-588-0558  
Cell: 571-329-4763  
Email: Rebecca.Goolsby@navy.mil

-----Original Message-----

From: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US)  
[mailto:pae.c.wu.civ@mail.mil]  
Sent: Sunday, April 29, 2018 10:31 PM  
To: Goolsby, Rebecca CIV ONR, 341 <rebecca.goolsby@navy.mil>  
Subject: Re-send! FW: [Non-DoD Source] Re: COSMOS Office of Naval  
Research  
funding

Hi Dr. Goolsby -- here you go. Hope your computer woes are slowly  
resolving!

Look forward to learning more about your programs and your potential  
interest areas.



p

-----Original Message-----

From: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US)  
Sent: Wednesday, April 11, 2018 4:58 PM  
To: Goolsby, Rebecca L CIV USN ONR (US) <rebecca.goolsby@navy.mil>  
Subject: RE: [Non-DoD Source] Re: COSMOS Office of Naval Research funding

Hi Dr. Goolsby -- I am a science director based in Singapore for ONRG. I have been working with (b) (6) for over a year to scope out some activities here in Singapore to support a (still in development) STO program that would be performed here in Singapore. The big picture is related to gray zone, and in the near term the activity in Singapore would be looking at how real world urban sensors (multiple modalities) can be applied to person identification.

In parallel with this, I have been discussing possible R&D grants with academics here in Singapore that ONRG may fund to complement the larger gray zone question. I am extremely new to this space, but generally am interested in looking at how new analytical techniques (to include machine learning) can be applied to real world datasets for diagnosing activities that (taken in aggregate) may amount to gray zone aggressions. Singapore is a particularly interesting location to perform such studies in large part because of their national strategy to become a smart nation. Surveillance cameras are ubiquitous and real-time transport tracking is as well. Further, they are sensorizing housing developments (where 80% of singaporeans reside) for more conveniences for daily life, and ancillary security considerations. In short, there is an appetite and some comfort with using with real world data in controlled ways.

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Thanks for your time and I look forward to learning more about your program.

Pae

Very respectfully,

---

Pae Wu, Ph.D.  
ONR Global Science Director Singapore Office Embassy of the United States of America |Singapore  
(m) +1 (206) 953.4192 | (o) +65 6476.9300  
iMessage/FaceTime: pae.c.wu.civ@mail.mil  
<http://www.onr.navy.mil/global>

-----Original Message-----

From: Nitin Agarwal [mailto:nxagarwal@ualr.edu]  
Sent: Tuesday, April 10, 2018 11:14 PM  
To: Wu, Pae C CIV USN ONR GLOBAL SINGAPORE (US)  
<paec.wu.civ@mail.mil>  
Cc: Goolsby, Rebecca L CIV USN ONR (US) <rebecca.goolsby@navy.mil>  
Subject: [Non-DoD Source] Re: COSMOS Office of Naval Research  
funding

Hi Pae,

I appreciate you reaching out. My program officer at ONR is Dr.  
Rebecca  
Goolsby. I am copying her on this note. My DARPA program manager  
is

(b) (6)

Attached are two of my latest publications with full citation  
details as  
follows:

- Nitin Agarwal and Kiran Kumar Bandeli. Blogs, Fake News, and  
Information  
Activities. Digital Hydra: Security Implications of False  
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Online. NATO Strategic Communications Center of Excellence (StratCom  
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pp. 31- 46. November 8, 2017. ISBN 978-9934-564-18-5.

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Goolsby.  
Examining the Use of Botnets and their Evolution in Propaganda  
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analysis. I  
appreciate any details you could share about the workshop you are  
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Please let me know if there is anything I can provide to help  
further.

Best wishes,  
Nitin